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INFANTRY TRAINING

VOL II

INFANTRY HEAVY WEAPONS

PAMPHLET No. 24

THE MEDIUM MACHINE GUN

PART III—FIRE CONTROL

1951

AMENDMENTS No. 4

MANUSCRIPT AMENDMENTS

Page 3. Lesson 93. Para. 9. Line 3. *Delete* "2525" and *substitute* "2440."

Page 4. Fig. 14. *Delete* existing dimensions for beaten zones and *substitute* new dimensions:—

800 yards	245 yards long	27 yards wide
1400 yards	185 yards long	9 yards wide
2000 yards	150 yards long	17 yards wide
2800 yards	215 yards long	28 yards wide.

Page 9. Lesson 95. Para. 7(a). Line 1. *Delete* "4500 yards" and *substitute* "2800 yards".

Page 10.

Delete para. 7(e) and all detail.

Para. 8. Fig. 19. Example, line 2. *Delete* "3000 yards" and *substitute* "2000 yards".

Page 18. Para. 11.

Line 3. *Delete* "1400" and *substitute* "1500".

Line 4. *Delete* "1450" and *substitute* "1550".

Page 36. Fig. 27. *Delete* "C2250" and *substitute* "C2350".

In example to Figure 27. *Delete* "2250 yds." and *substitute* "2350 yds.".

Page 39. Para. 8(c). RULE THREE. Line 2. *Delete* "3800" and *substitute* "2400".

Page 47. Fig. 35. *Delete* ranges from left to right and *substitute* left to right, “ 980^x, 1140^x, 1220^x and 1360^x”.

Page 47. Para. 7(b). Line 3. *Add* after “ circumstances ” “ and where no safety is involved ”.

CUT-OUT AMENDMENTS

Page 11. LESSON 95. Para. 8. *Delete* first four lines and *substitute*:—
Amdt. 4/Nov./1959

Following the 10 minute column down until it is opposite 2000 yards, read off the amount subtended by 10 minutes at 2000 yards, i.e., 5 yards. Repeat for 4 degrees, i.e., 140 yards. Add the two figures together, i.e., 145 yards. Therefore AB is 145 yards.

Page 13. LESSON 96. Para. 9 (as amended by Amdts. No. 1).
Delete “ combined sight rule table ” and *substitute* new combined sight rule table:—
Amdt. 4/Nov./1959

Range	Number of Elevations		
	Map	Rangefinder	Estimation or Key
0-1000	1	1	1
1050-1500	1	1	3
1550-2000	3	3	5
2050-2500	5	5	—
2550-2800	5	7	—

Note:—When using the dial sight graduated for Mk. VIII Z ammunition one extra elevation, above and below the target (in addition to those shown above) will be employed at all ranges over 2000 yards. These extra elevations will not be taken into account when calculating safety or crest clearance. These extra elevations are necessary because, when giving controlled corrections at ranges over 2000 yards an *Add* or *Drop* of 50 yards or more on the Range Drum does not give an equivalent *Add* or *Drop* of 50 yards on the ground.

Page 36. LESSON 102. Para. 13. *Delete* Rule 4 and *substitute* new Rule 4.
Amdt. 4/Nov./1959

THE 3 DEGREE LIMIT EXTENDS TO A POINT 500 YARDS FROM THE CENTRE OF THE HIGHEST BEATEN ZONE AT ALL RANGES.

Page 39. LESSON 103. Para. 8(b). *Delete* existing para. 8(b) and *substitute* new para. 8(b).

Amdt. 4/Nov./1959

(b) RULE TWO—TRIPODS MUST BE IN GOOD CONDITION AND BARRELS MUST NOT HAVE FIRED MORE THAN 12000 ROUNDS.

Page 42. LESSON 103. Para. 10(b). *Delete* example and *substitute* new example.

Amdt. 4/Nov./1959

Example. The point selected as the probable for limit of safety is at a range of 1215 yards and the ground angle to that point is 30 minutes.

Range to target 1650 yards (Estimation); lowest elevation 1550 yards.

Tangent angle for 1550 yards is $2^{\circ} 25''$.

Safety angle for 1250 yards is $2^{\circ} 54''$.

Therefore the safety angle minus the ground angle equals $2^{\circ} 24''$.

As this angle is one minute less than the lowest tangent angle, friendly forces are safe at this point, which is therefore the far limit of safety.

Page 42. Para. 11. *Delete* example and detail to "guns" at end of page and *substitute*:—

Amdt. 4/Nov./1959

The point selected as the probable near limit was 50 yards from the gun position. The ground angle to that point was 1 degree.

Range to Target	1650 yards (Estimation)
Lowest elevation	1550 yards

Tangent angle for 1550 yards is $2^{\circ} 25''$

Safety angle for 50 yards is $3^{\circ} 17''$

Ground angle at 50 yards is 1°

Therefore the safety angle minus the ground angle equals $2^{\circ} 17''$ and this being $8''$ less than the lowest tangent angle, friendly forces are safe, and the new limit of safety is therefore at 50 yards in front of the guns.

Page 47. LESSON 105. *Delete* para. 7(a) and *substitute* new para. 7(a):

Amdt. 4/Nov./1949

(a) (i) A belt of fire where safety is involved (see Fig. 35 below).

In this case, it is usual to give different ranges to each gun so as to make the belt of fire as long as possible. To ensure that there is an efficient overlap of beaten zones

on flat ground and forward slopes, the amount by which the ranges can be opened out is given in the following table:—

Forward Slope	Open Out			
	Nil	50 ^x	100 ^x	150 ^x
Flat Ground ..	—	—	1300	600
30" 1/115 ..	—	—	2000	1250
1° 1/60	—	—	600–800 1350–200	850 — 1300
2° 1/30	—	600	1150	—
3° 1/20	—	—	—	—
	—	1100	2000	—
4° and Over ..	600	1050	—	—
1/15 and Over ..	1000	2000	—	—

(ii) An example of this can be seen in Fig. 35, where by ordering “ No. 1 gun 1100 yards, No. 2 gun 1250 yards ” on flat ground the belt of fire can be stretched from 980 yards to 1360 yards and the beaten zones will overlap efficiently. This is one of the most valuable characteristics of the MMG. When laying a belt of fire, tapping right and left is not employed.

Page 47. *Insert* new para. 7(c):—
Amdt. 4/Nov./1959

(c) Instructors Note. It may appear that on flat ground the amount of overlap allowed when the beaten zones are “ opened out ” is excessive; this is because when preparing the rule for flat ground in para. 7(a) above, only 78 per cent of the length of the beaten zones was used in order to ensure an efficient overlap and belt of fire. However, for all other purposes, the dimensions of the beaten zones shown in the range-tables should be used.

*Prepared under the direction of
The Chief of the Imperial General Staff*

THE WAR OFFICE,
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